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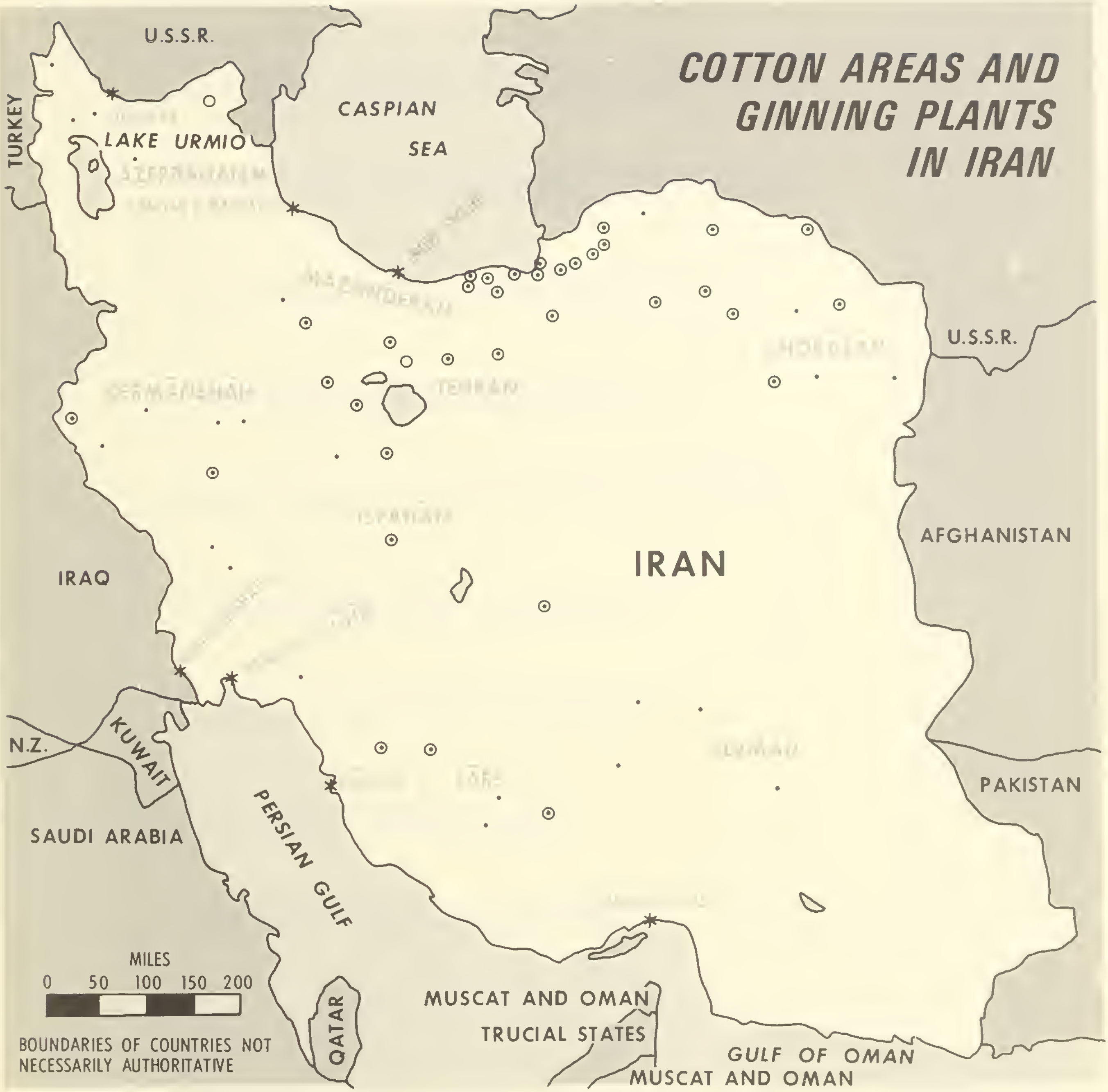
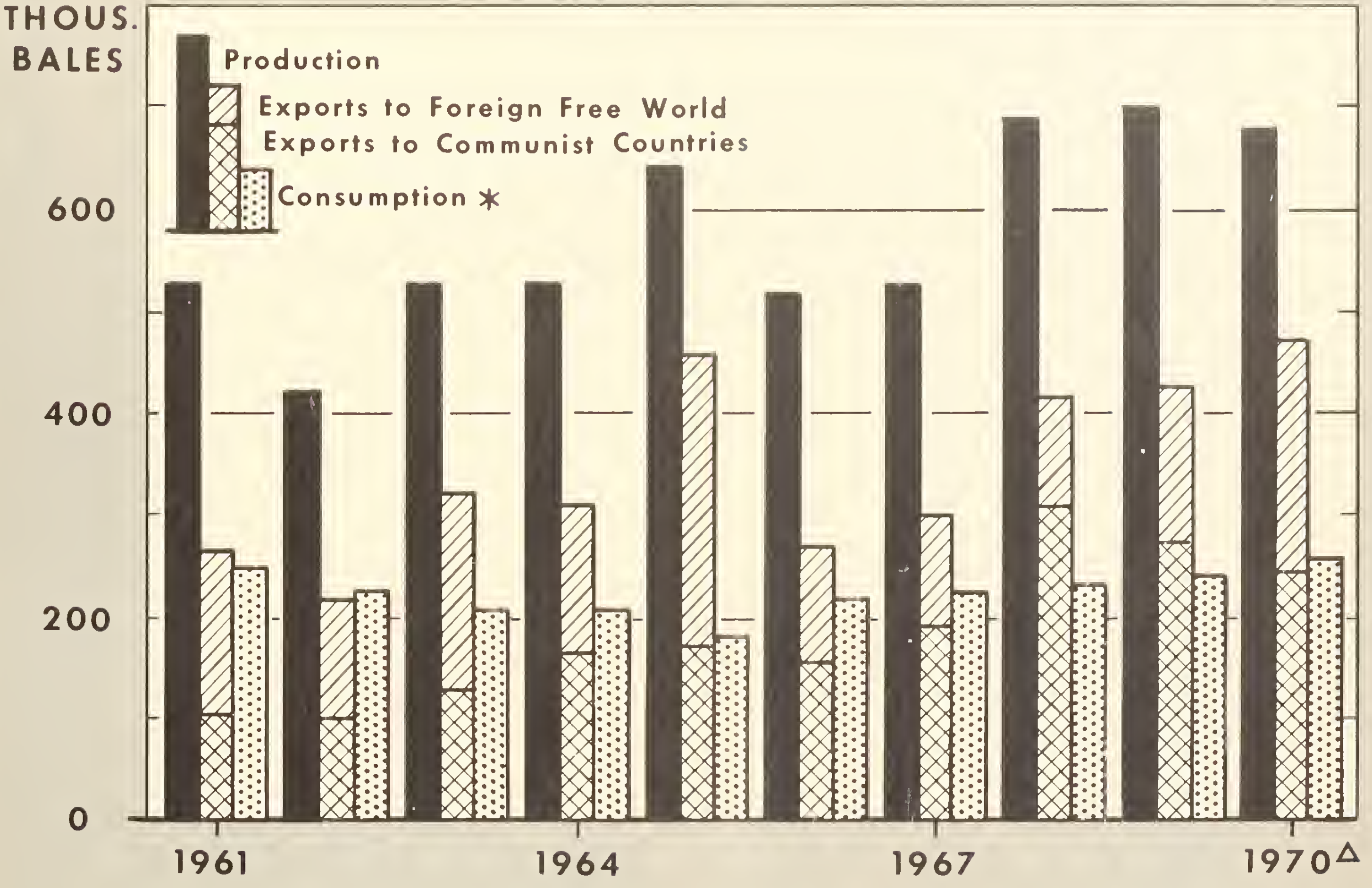
COTTON IN IRAN



LOCATION OF GINNING PLANTS · 1968-69 ○ 1970-71 ✱ SHIPPING PORTS

IRAN COTTON PRODUCTION, EXPORTS AND CONSUMPTION



YEAR BEGINNING AUGUST 1. *INCLUDES DESTROYED. △PARTLY ESTIMATED.

FOREWORD

Cotton is one of Iran's most important crops. Production, mill consumption, and exports have trended upward for more than 20 years. This study reports on the recent, present, and prospective place of cotton in Iran and is one of a continuing series of studies that assess the competitive aspects of agricultural development and trade in the various cotton producing countries of the world.

The author, in making the study, had the cooperation and assistance of various public officials and many agricultural, business, and textile industry leaders in Iran, and the U.S. agricultural attaché and his staff. Their generous support was invaluable.

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COTTON IN IRAN

Larence E. Osborn
Cotton Division

SUMMARY

Iran's cotton exports, its second largest foreign exchange earner, are expected to continue competing with U.S. cotton during the next few years. No intensification of rivalry is foreseen, however, because rising domestic consumption should utilize most of the expected increase in production.

Iranian cotton, which competes with U.S. medium and longer staple upland fibers, is highly regarded both in world markets and by the country's domestic textile mills but practically all the higher quality cotton is exported. In recent years, about three-fourths of Iran's exports have been shipped under trade agreements to Communist countries, mainly the U.S.S.R., Czechoslovakia, Hungary, Romania, Yugoslavia, and Poland. The rest has gone mostly to Japan and the United Kingdom—major U.S. markets.

Iran's foreign earnings from cotton exports are exceeded only by those from petroleum and petroleum products. Cotton exports in 1970-71 (August-July crop year) are estimated at a record of 475,000 bales (480 lb. net), ranking seventh in world cotton exports. The 1970-71 level compares with 430,000 bales a year earlier and the previous record of 459,000 bales in 1965-66. Shipments should range around 450,000 to 500,000 bales a year, as cotton production is expected to increase during the next few years.

Cotton production in Iran totaled 680,000 bales in 1970-71, below the record 710,000 bales produced in the previous year. Iran currently ranks eighth in foreign Free World production of cotton. Acreage planted to cotton this season—790,000 acres compared with 940,000 in 1969-70—is down because of farmer discontent over last year's low profits, resulting from heavy insect damage and lower cotton prices.

Cotton prices in 1970-71, however, were 10 percent higher than those of last year (28.0 cents per pound compared with 26.5 cents). As a result, farmers are likely to increase cotton acreage slightly next season, possibly taking land out of wheat, sugarcane, and in some areas, sunflowerseed. This would reverse a downtrend in acreage begun in 1962-63, caused by increased production costs and strong competition for land from food crops. Cotton acreage is not expected to reach the level of previous years. However, production increases stemming from use of improved technology and new cotton varieties, as well as the extension of irrigation facilities, should result in increased yields per acre. Cotton production should increase to around 800,000 to 900,000 bales in the near future, depending, of course, on the weather and insect damage.

Over the past 15 years, cotton production in Iran has increased an average of 27,000 bales annually, and yields per acre have gained about 14 pounds per year. Cotton area has risen more than 15,000 acres annually during the period, even though it has declined from a peak of about a million acres in 1962-63.

Achievement of the Government's goal of increasing average yields by 100 pounds over the present 413 pounds per acre, as proposed in the fourth Five Year Plan, would offset the effect of expected acreage reductions.

Under the Plan, begun in 1968, the Ministry of Agriculture furnishes technical assistance to farmers and subsidizes fertilizer and insecticide costs, plus part of the interest on loans for participating farmers. If farmers follow the instructions of extension agents, the Government refunds at the end of the season an amount equal to one-third of the cost of fertilizer, 3 percent of the interest accrued on the loan, and all the cost of aerial spraying. Nearly 200,000 acres were scheduled to be covered under the plan by 1970-71, and about 250,000 acres by 1974-75.

If Government efforts to assist cotton production continue to be concentrated in the Gorgān-Gonbad-e Kāvūs and Māzandarān areas of the Caspian Coast Region—which now account for about 80 percent of total production—a considerable increase in yields per acre can be expected and will result in larger production on reduced acreage.

Other means of increasing yield—and offsetting acreage reductions—will become available as dams and watershed projects are completed, providing improved and expanded irrigation facilities for growing cotton.

One such dam, on the Aras River in northern Iran (between Iran and Russia), expected to be completed in 1971 initially will provide water for irrigating 15,000 to 20,000 acres. Later, with more land leveled and the irrigation facilities extended, about 30,000 to 40,000 acres in the area will have irrigation water. In addition, a new, high-yielding variety of long-staple cotton is being developed from the Egyptian Giza 31, especially for the Aras area.

This increased production will require additional storage and seed handling facilities and more ginning equipment.

The Ministry of Agriculture provides technical and financial assistance and has been helping to raise yields by supplying improved seed and developing new varieties. Although the seed of the new varieties had become mixed with that of older ones, the resulting effect greatly increased yields. The older ones—producing most of the cotton grown in Iran—were selected several years ago from U.S. varieties. The Government cotton organization, which is responsible for all aspects of the industry from planting to final lint classification, has made an effort to prevent new varieties from being mixed with old ones and has been more effectively supervising the cotton industry in recent years.

Parent stock of Iranian cotton includes Coker 100-Wilt, Acala 1517, and two relatively minor local varieties, Filestani and Boomi, still grown in some parts of the central and southern regions. Two new varieties, Varimin and Sahel, are being developed in sufficient quantities to replace most of the older varieties in all regions except the Fars area, where Acala will continue to be planted. The Sahel variety would be primarily for the Caspian Coast Region and Varimin for the other irrigated cotton areas.

Discussions with Iranian farmers suggest that direct costs of producing cotton in 1970-71 were between 15 and 16 cents per pound of lint.

In 1970-71 the higher cotton prices were caused by the short crop and the opening of new gins, which has intensified competition among ginners buying from the producers. The Government controls the number of gins and the amount of ginning equipment by licensing all gins. Reportedly because of the large crop last season, seven new ginning licenses were issued in the Caspian Coast Region, which included provision for expanding gins already existing and for sharply increasing ginning capacity. (Every 4 or 5 years, the Government gives gin operators a chance to replace and improve machinery and equipment.)

The number of gins was reported at 86 with a total of 293 stands in 1970-71. All of these were saw gins.

The textile industry in Iran has changed little in recent years. Cotton consumption in 1970-71 is expected to hover around 260,000 bales, about 20,000 above the level a year earlier. In the past 5 years, consumption has regained the losses of the early 1960's. However, cotton textile equipment is rather inefficiently operated for the most part. Also, in recent years, use of imported manmade fiber (mostly rayon) has expanded by about 5 percent a year.

The domestic demand for cotton textiles is expected to increase as the Iranian economy continues to expand. Greater emphasis is expected to be placed on expanding the textile industry in the next few years. Domestic cotton consumption is expected to rise and may range from 250,000 to 350,000 bales in the next few years.

Like other programs included in the fourth Five Year Plan ending in 1972-73, a greater emphasis is placed on expanding the textile industry, compared to the third plan. The current plan includes the expansion of a broad category, including textiles, of around 10 percent annually based on the value of production.

In the next few years, cotton exports from Iran are expected to total around 500,000 bales, provided a production level of about 850,000 is attained. This production level is likely if cotton acreage in the Moghan Plain increases to nearly offset acreage loss in the other areas and average yield is increased by about 130 pounds an acre above the 413 pounds in 1970-71. In the Caspian Coast Region, however, most of the cotton is rain grown which makes the major portion of the crop susceptible to the hazards of dryland farming, although in the past decade, with only minimum Government assistance, yields have increased significantly.

ACREAGE, YIELD AND PRODUCTION

Iranian cotton production has increased sharply in the past 20 years, but most of the increase occurred in the first half of the period. Production reached a record 710,000 bales in 1969-70, nearly double the 373,000-bale crop of 10 years ago and almost 10 times the 80,000-bale crop of 1947-48. Cotton production faltered for about 6 years before advancing and maintaining a level above or about equal to the 1961-62 level of 530,000 bales. Higher costs of production during this period and insect and weather damage discouraged farmers as acreage was cut back from 1 million in 1962-63 to a low point of 717,000 acres in 1967-68 with an outturn that year of 528,000 bales.

Iran's overall average yield has increased rapidly as the major areas of cotton production were spread from small irrigated sites near rivers throughout Iran to a more concentrated area in the Caspian Coast Region, which includes the Gorgān-Gonbad-e Kāvūs and the Māzandarān areas. The 1970-71 average yield is estimated at 413 pounds per

Cotton acreage, yield, and production, 1947-48 through 1970-71

Season[1]	Acreage	Yield	Production
	1,000 acres	*Pounds per acre*	*1,000 bales*[2]
1947	205	187	80
1948	259	171	92
1949	247	187	96
1950	321	193	129
1951	371	160	124
1952	450	176	165
1953	555	208	240
1954	620	213	275
1955	650	203	275
1956	625	219	285
1957	625	215	280
1958	640	240	320
1959	740	242	373
1960	800	274	456
1961	985	258	530
1962	1,000	204	425
1963	988	257	530
1964	940	271	530
1965	940	329	645
1966	965	258	519
1967	717	353	528
1968	890	372	690
1969	940	363	710
1970[3]	790	413	680

[1] Beginning Aug. 1.
[2] 480 pounds net.
[3] Preliminary.

Source: Official and trade statistics, reports of Agricultural Attachés, and other information.

acre, compared with less than 200 pounds in the years prior to 1953-54. Some of this increase reflects better varieties, improved technology, and better soils, as well as the use and extension of irrigation systems. Higher yields are attributed in part to the introduction of Coker 100-Wilt seed in 1955. Varieties grown prior to 1955-56 had deteriorated and their yields were low. Even though 100-Wilt seed rapidly became mixed with older varieties, especially during the years immediately following its introduction, yields improved because the end result was a better quality seed.

Resistance of Coker 100-Wilt to Fusarium Wilt has become practically nonexistent in Iran as a result of seed mixing and increased prevalence of nematodes Tests in 1964 on a new variety, Acala 1517-C, indicated a higher tolerance to Fusarium and Verticillium Wilts than in Coker 100-Wilt. Over the next few years, research personnel working with both Coker 100-Wilt and Acala 1517 developed 2 new varieties–Varimin and Sahel–which are expected to replace all cotton in Iran except in the Fars area where Acala will still be grown.

Cotton acreage in 1970-71 is estimated at 790,000 acres, down sharply from 940,000 acres a year earlier. This is nearly four times the 205,000 acres in 1947-48 but only four-fifths as large as the record of 1 million acres reported for 1962-63. Large areas of potentially tillable land are still uncultivated in Iran, but irrigation is necessary to make most of them productive. Small, relatively inexpensive irrigation projects can increase productivity in many areas, but development could be slowed by land reform. Irrigation projects are being developed. However, food crops get priority in order to meet the increasing food needs of a rapidly growing population.

Large-scale irrigation projects, such as the Khuzistan Project in southwestern Iran in the early 1960's and the present Aras Dam Project in northwestern Iran, are so expensive that the necessary capital will have to be supplied by the Government. In the case of the Aras Dam between the USSR and Iran, the two Governments are sharing the costs and will also share water and electric power. There are few other places in Iran suitable for large-scale irrigation development because rough terrain and salt marshes cover much of the country.

Several factors will play an important role in determining the future of cotton acreage in Iran. One of these is the current land reform program. Prior to 1964, the land reform program had little impact on cotton production, because mechanized farms that utilized hired labor have been exempt from land reform programs. If this exemption continues, the impact in the major producing region of Gorgān-Gonbad-e Kāvūs will be minimal. In other areas, however, especially where agriculture is organized on a village basis, land reform may interfere with the farmer's ability to acquire the land and capital needed for efficient operation.

The future of cotton also will depend on conditions already prevailing in the areas, and upon the particular manner in which the land reform and other social and economic changes are made. In areas where food production is usually low, and not supplemented with dependable supplies from elsewhere, the new landowners are expected to give primary attention to food crops, at the expense of cotton production. On the other hand, where local food supplies are already fully adequate, or where special steps are taken to promote cotton as a cash crop, its production could be maintained or even increased under conditions of land reform.

The price ratio between cotton and wheat currently favors cotton. The Government loosely controls wheat prices to assure low-priced bread to the people. An increase in wheat prices, because of growing food needs, could change this price ratio and result in reduced cotton acreage. The shortage of vegetable oil in Iran has raised the price of sunflowerseeds in relation to cotton prices. In some fringe areas where rainfall is low and insects and diseases are problems for cotton growing, sunflowerseed is competing with both cotton and wheat.

A labor shortage for the seasonal work required by cotton producers has developed in the Gorgān-Gonbad-e Kāvūs producing region. Many workers are currently obtained from outside the main cotton growing region during the cotton harvest. While the labor shortage will tend to slow acreage expansion, it is not likely to halt its upward trend in this area. The use of mechanical cotton pickers to overcome the labor shortage is unlikely, since their use would involve large capital outlays, repair facilities, and modifications in gin-cleaning equipment.

Better adapted varieties with higher yields could encourage farmers to plant more cotton. Improved seed offers a rather painless way to the individual farmer to increase yields without a large capital outlay. Other methods of increasing yields, such as the use of fertilizer and insecticides, have generally been considered too expensive, but the Government now subsidizes loans for cotton production and part of the cost of fertilizer.

COTTON PRODUCING AREAS

Cotton production in Iran is concentrated from a volume standpoint, but small acreages are scattered throughout the country. The relative importance of the different producing areas has shifted sharply during the past quarter of a century. The Gorgān-Gonbad-e Kāvūs area near the coast of the Caspian Sea, produced less than 10 percent of the total cotton output in 1947-48. In 1970-71 this area produced nearly two-thirds of the total crop. Acreage reduction occurred in the Māzandarān and Khorāsān areas which are located to the West and East of the Gorgān-Gonbad-e Kāvūs area.

The important growing regions will be discussed separately because of the variation in production methods and climatic conditions.

Gorgān-Gonbad-e Kāvūs

The Gorgān-Gonbad-e Kāvūs area lies between the Atrak and Gorgān Rivers which flow southwest and empty into the southeastern corner of the Caspian Sea. The Atrak River forms the Iranian-Russian border near the Caspian, and the Gorgān River parallels the Atrak 50 to 80 miles to the south. Between them lies a large fertile alluvial plain which extends 10 to 50 miles farther south of the Gorgān River. This fairly wide valley is one of the larger tillable areas in Iran. Rainfall, heaviest around the Caspian and dropping considerably in the upper reaches of the River, ranges from a few inches to more than 25 inches. Excluding the developed part of Khuzistan in southwestern Iran, Gorgān-Gonbad-e Kāvūs offers a greater potential for agriculture than any other section of the country. Much of it is under cultivation, but because of the inadequate rainfall, dryland farming is very hazardous. Irrigation wells permit a shift to more intensive cropping patterns, but only about 15 percent of the cotton grown in this area is irrigated.

Cotton: Percentage of total produced by area, 1947-48, 1961-62, 1968-69, 1969-70, and 1970-71

Region	1947-48	1961-62	1968-69	1969-70	1970-71
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
Gorgān and Gonbad-e Kāvūs (Dasht)	9.2	42.2	53.9	55.2	65.8
Māzandarān	27.3	24.7	19.1	14.9	13.7
Khorāsān	27.5	16.1	10.8	12.4	9.3
Tehran	6.4	7.6	7.4	7.3	4.8
Fārs	7.1	6.3	6.1	7.0	4.5
Azerbaijan	3.1	1.0	1.5	1.1	1.5
Isfahan	8.1	.9	.7	.7	(1)
Kerman	6.2	.5	.5	1.5	.4
Kermanshah (Other)	5.1	.7	(2)	(2)	(1)
Total	100.0	100.0	100.0	100.0	100.0

[1] Included in Kerman–Details not available due to transshipment to other provinces for ginning.
[2] Less than 1/2 of 1 percent.

The Gorgān-Gonbad-e Kāvūs region is experiencing rapid agricultural growth, mainly because of the development of well-type irrigation. Transportation has also hastened growth. A railroad connects the city of Gorgan with much of the rest of the country, and roads passable the year-round connect the more important towns and cities.

Prior to the widespread introduction of irrigation the extensive farming pattern of the area supported relatively few people and landholdings were sizable. This limited population relative to the available acreage resulted in large farms and continues even where irrigation permits greatly intensified farming practices. Much of the land that has come under irrigation was former wheatland or pastureland. Production of sunflowerseed is becoming the largest single competitor of cotton because of the demand for vegetable oil.

The Gorgān-Gonbad-e Kāvūs area is in the Middle East. In many of the pockets of cultivation in the Middle East, climate and rainfall preclude production of a number of crops. Generally, when variation is possible, food and forage crops have first claim on the land and cash crops are produced only after food and forage needs are met. However, on the Gorgān Plain a variety of crops can be cultivated successfully, but its farmers have turned primarily to a "one crop" economy–cotton. The terrain of the Gorgān region is suitable for mechanized farming, and an estimated 80 to 90 percent of the land in cotton is plowed with tractors. This does not mean mechanization is complete. The land is plowed in late winter and disked once or twice before planting time. Cottonseed is then sown broadcast by hand and disked into the ground. All further cultivation and harvesting is by hand. About 80 percent of the land is prepared in this manner; the other 20 percent is row-planted and cultivated mechanically.

Farmers are beginning to take advantage of Government aid for fertilizer and insecticides, thereby increasing their use. Timely application of insecticides, especially to control bollworms, has undoubtedly contributed to the rise in yields.

The area's sparse population could create a tight labor situation resulting in some slowdown in the future expansion of cotton in Gorgān-Gonbad-e Kāvūs. Cotton production normally requires a much larger work force than wheat, but because of the seasonal nature of cotton, there will be no strong inducement for labor to move into the area.

Some of the labor requirements could, of course, be met with mechanization–a fairly expensive alternative. Farmers are more likely to plant additional sunflowerseeds or wheat, at least for the next few years. Wheat harvesting machinery is already available. Also, grain combines are much less expensive than mechanical cotton harvesters.

Production of cotton probably will continue to expand in Gorgān-Gonbad-e Kāvūs, but at a much slower rate than in recent years. This assumes that land reform programs will continue to exempt large mechanized farms using hired labor. Profits from cotton are sufficiently above those of easily adopted alternative crops to assure cotton acreage at maximum levels consistent with labor, capital, and equipment availabilities.

Māzandarān

The fairly mountainous Māzandarān area lies immediately south of the Caspian Sea and adjacent to the Gorgān-Gonbad-e Kāvūs area. Cotton production peaked at about 150,000 bales in the 1960's but dropped below 100,000 bales at the end of the decade. About 25 percent of Iran's total cotton crop was produced in this region in 1961-62, slightly below the 1947-48 share. However, the Māzandarān area has produced only about 15 percent in recent years.

Production is confined to a narrow coastal plain and narrow valleys with tillable land. While some of the cotton produced in Māzandarān is cultivated mechanically, a sizable share is produced by more primative methods, especially in the valleys where tillable land areas tend to be too small for profitable investment in heavy equipment. Little of the cotton in Māzandarān is irrigated. Rainfall is erratic but averages around 40 inches a year–sufficient for fairly good yields.

This area is more heavily populated than the Gorgān region, and the "village" system of farming is much more prevalent. This system, the major factor involved in the land reform program, operates along the lines of the European feudal estates of several centuries ago. The landlord owns the village and surrounding lands. Peasants live in the village and work the land, generally on a share basis. Land reform is aimed primarily at breaking the feudal land tenure system and creating a class of owner-operators.

Unless land reform is implemented in such a way as to encourage or require the maintenance of cotton production, the new landowners may plant more food crops, mainly wheat or sunflowerseeds, at the expense of cotton. The limited land resources will prevent much expansion of total farm acreage, and the limited managerial talent in the villages may neglect improved cultural practices. Consequently, yields of all crops may decline, for awhile at least. On the other hand, the "magic of ownership" may provide significant incentives for better cultural practices and improved yields.

Insect damage is heavy in this area and is associated mainly with the relatively heavy rainfall. Diseases, too, cause severe losses each year–in particular, Verticillium Wilt–but root-rot losses are also heavy because of the humid condition that prevails during the planting and early growing seasons. Fusarium Wilt results in serious losses in restricted areas.

Little is done to control insects or diseases; but control practices, some of which would be fairly costly, could greatly improve yields.

Meshed (Province of Khorāsān)

Cotton production in the Meshed area is confined to the foothills of its rugged mountains and lower valleys. Almost without exception, cotton is irrigated since rainfall averages only about 5 inches annually.

The Province of Khorāsān, the largest in Iran, occupies the entire northeastern section of the country and is bordered on the north by Russia and on the east by Afghanistan. The southern half contains sparsely settled dry mountains or salt deserts. Meshed, the capital city, lies in the northeast corner of Khorāsān, and the Province's cotton production is concentrated in the west and the area immediately south of Meshed.

Cotton growing has increased fourfold in this area since the late 1940's. However, as with other older producing areas, Meshed's relative share of total cotton output has fallen because of the rapid increase in the Gorgān area. Khorāsān farmers currently produce about 10 percent of Iran's cotton, compared with more than 16 percent in 1961-62 and more than 27 percent in 1947-48.

Meshed cotton is irrigated from ghanats, which are ancient irrigation devices built by digging a series of wells and connecting them by tunnels. Usually the mother well is dug in the foothills of a mountain range and each succeeding shaft, slightly less deep, leads away from the foothills to more level land. Eventually, water is brought to the surface without the aid of pumps by connecting the vertical shafts with the horizontal tunnel. Although ghanats are difficult to construct and maintain, they are a fairly efficient way to move water underground, except in porous soil formations. In an arid country such as Iran, high rates of evaporation make surface movement of water for long distances impractical. A few areas are watered by streams through gravity flow channels. Deep wells and power-driven pumps help to overcome some of Meshed's water supply problem, but not many wells have been dug.

Most of the Meshed farming region is also on the village system. Although villages are few, owners are being encouraged to volunteer their farms for government distribution. Otherwise, the government is pledged to intervene. Under such conditions, landlords obviously are unwilling to invest in deep wells, and after distribution, the new landowners are not likely to have the capital for such investment for a number of years. The government may help a few villages, but its resources are limited and will not cover all of the many projects and services necessary to improve the production of cotton in this region.

Here too, land reform could reduce cotton acreage if not accompanied by programs to encourage the maintenance of acreage. However, food supplies in this farming area are normally adequate, and major changes in the cropping pattern are unlikely.

Tehran

The city of Tehran lies along the southern foothills of the Elburz mountain range and is in the center of considerable farming activity. The Elburz range forms an effective line of demarcation between the heavier rainfall of the country around the Caspian Sea and the deserts of the central plateau to the south. Rainfall around Tehran averages 6 to 10 inches annually, and irrigation is necessary to produce most crops. Ghanats, streams, and power-driven pumps are all used, but ghanats are the major means of irrigation.

The Tehran producing region, which begins about 60 miles east of the city and runs about 100 miles to the west, produces around 5 percent of the annual outturn of Iranian cotton, about the same as in 1947-48. Production in absolute terms has increased more than 500 percent, but at a slower rate than total Iranian production.

Competition for irrigated land is more pronounced in the vicinity of Tehran than in other areas. However, proximity to this large urban center of over 2 million people has encouraged more rapid development of water resources. Food crops, mostly fruits and vegetables to be sold fresh in the city, claim a large share of the available irrigated land. However, for the present at least, water resources are more than adequate to supply local needs for fruits and vegetables. Food grain and vegetable oil needs are not met locally, but there is little likelihood that these crops will have sufficiently high yields under irrigation to compete with cotton for land.

For the future, no rapid expansion of cotton acreage in this region is envisioned. Population is rising rapidly, and as additional land is irrigated, it will be used for vegetable or fruit production.

Cotton producers in the Tehran area use improved cultivation methods more readily than in any other area of Iran. More fertilizer and insecticides are used, a larger share of the crop is planted in rows, and labor is plentiful.

Province of Fārs

Cotton production is scattered through much of the Province of Fārs, located in south central Iran. Most of the Province is extremely hot and dry. The city of Shīrāz is near the northern fringe of the cotton producing region, and small cotton plots are widely scattered to the south and east of the city.

Around 5 to 7 percent of Iran's total cotton crop is produced in Fārs. This area has grown about the same share of the total crop since 1947-48. Fārs is the last stronghold for American or Amricaii cotton—the local name for a variety that has degenerated considerably since its introduction from Russia in the mid-1920's. It is likely that the Acala 1517-C variety now being produced in this area may become the dominant variety.

Land tenure in Fārs generally is of the village-system type. All of the area depends on irrigation, and villages are located close to available water. During 1954-58, a sizable number of small irrigation wells were dug and over 1,000 electric and other power pumps were installed under the Community Development Program. Pump installations have continued, but at a much slower rate since 1958. Most of the available water from pumps, ghanats, and streams is used for dates, citrus, and food crops, but small acreages of cotton are grown in many villages.

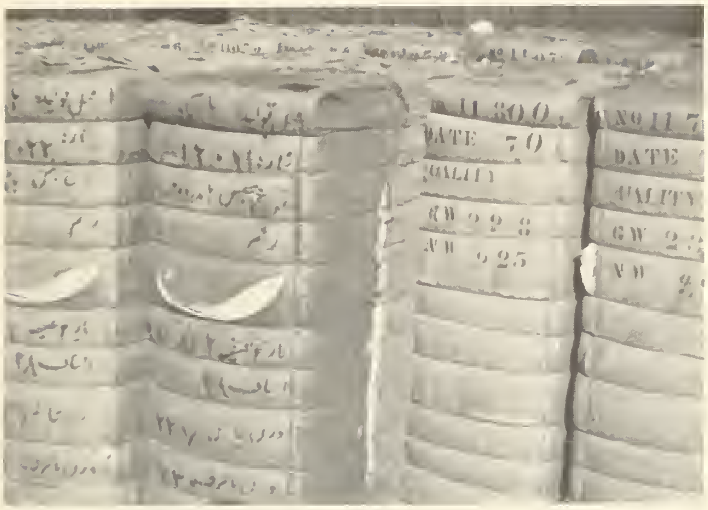
Land reform may affect cotton production more severely in this area than in most unless positive programs are put forward to encourage the maintenance of production. As village chiefs lose their authority, land not planted to dates or citrus is likely to go into food crops for local consumption.

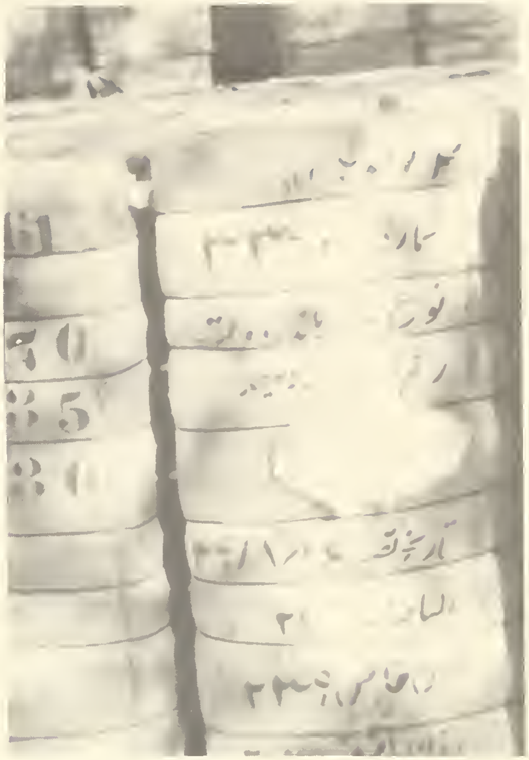
Azerbaijan

This area is the northwestern point of Iran that borders Iraq and Turkey on the west, the Caspian Sea on the east and the USSR on the north. It is very rugged and mountainous with peaks reaching over 15,000 feet. Lake Urmia (Daryācheh-ye Rezā-īyeh) measures about 80 miles long and 30 miles wide at the extreme and is located on the western side of the area near the border of Iraq and Turkey. Because of the rugged terrain only about 1.5 percent of total cotton production comes from this area.

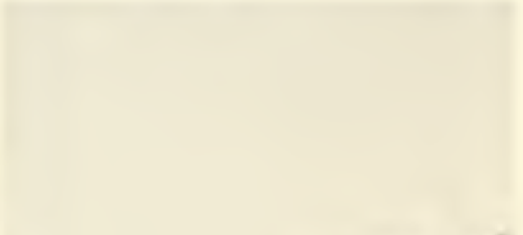
Modern, high-speed saw gin located in the Gorgān-Gonbad-e Kāvūs cotton producing area of Iran. All of Iran's cotton is saw-ginned with fairly modern U.S. equipment. Most gins are owned and operated by cotton exporters.

Cotton seed is moved from the gin to the bagging area by conveyor belt and, after bagging, is loaded manually onto trucks or trailers and taken to warehouses for storage or to crushing mills for crushing into cottonseed oil or other processing.





Top left, bales of Iranian cotton showing lightweight bagging and ties; top right, heavier bagging and ties from Russia; bottom left, temporary cottonseed storage in Iran; and bottom right, typical Iranian cotton plant.



Cotton is grown in small patches near irrigation ditches and streams. This is an area of some potential for cotton because cotton has been grown experimentally for many years in the Moghān Plain near the Aras River between the USSR and Iran. The Iranian Government in cooperation with Russia is building a dam across the Aras River to increase the irrigation potential. The completion of the dam may more than double the arable land in the Moghān Plain. It is expected that food crops will command first choice on the additional acreage but the potential for cotton will be greatly improved.

Isfahan

Agriculture in the area around the city of Isfahan is confined to the valleys and plateaus scattered among mountain ranges. Except for small grains, few crops can be produced without supplemental water, since rainfall averages less than 10 inches annually.

Cotton production in or near Isfahan has been less than 1 percent of the total Iranian cotton crop since 1961-62 and dropped to less than one-half of 1 percent in 1970-71. The rapid growth of a large textile industry around the city of Isfahan probably accounts for the decline.

Isfahan is the last stronghold of Boomi cotton in Iran. Boomi is a short, harsh Asiatic type cotton that is used locally by villagers for making coarse cloth, blankets, and padding. Although Isfahan is the textile center of the country, no Boomi cotton is used by the many mills located there. All the cotton for mill use is trucked into the area from other producing regions. As supplies of millmade textiles increased, homemade cloth production declined and the need to produce Boomi cotton was lessened.

Other Areas

Cotton is grown throughout much of the entire western half of Iran, but its production accounts for less than one-half of 1 percent of the national crop and is declining. Practically all of the cotton is produced on small plots or along irrigation ditches. Because of the growing demand for food crops, developed land will probably be used to meet this demand and cotton production will remain insignificant.

VARIETIES

Two types of cotton are produced in Iran. Upland cotton—all derived from U.S. upland varieties—accounts for over 98 percent of the crop. The remainder is an Asiatic type known locally as Boomi cotton. Parent stocks of Iranian cotton include American varieties (Coker 100-Wilt and Acala 1517), two local varieties (Filistani and Boomi) and a long staple Egyptian variety, Giza 31. Efforts have been made to introduce extra-long staple cotton, but thus far little success has been achieved. Two new varieties of Coker 100-Wilt—Sahel and Varimin—are being developed in sufficient quantities to replace most of the older varieties in all regions except the Fārs area where Acala will continue to be planted. The Sahel variety would be primarily for the Caspian Coast Region and Varimin for the other irrigated cotton areas. Experimental plots in the Moghān Plain are promising for Giza 31, but until irrigation is extended in the area very little production is expected.

The most important upland variety now produced is *Coker 100-Wilt*. This variety was introduced in the mid-1950's and gained acceptance rapidly. By 1961-62 almost 75 percent of the total output was 100-Wilt. In recent years, around 95 percent of total crop was 100-Wilt. The rapid spread of this variety is attributed to its popularity with both the Cotton Board and privately owned gins which distribute almost all the planting seed used in Iran. Since the lint turnout and quality generally are much better than those of other varieties being produced, use of this seed quickly spread throughout most of the country. Much of the 100-Wilt produced is Middling or better grade with a staple length of around 1-1/16 inches.

Even though the seed of newer varieties became mixed with older varieties, yields improved significantly. In recent years, the cotton industry has been closely supervised by the cotton industry organization, which is responsible for all aspects of the trade from planting to final lint classification. Efforts are now being made to keep new varieties from being mixed with older varieties.

Prior to the widespread acceptance of 100-Wilt, another variety of Coker cotton, known locally as *Cokers or Cookers*, was the dominant variety of cotton. Reportedly introduced by Coker's Pedigreed Seed Company after

Cotton production: Percent of total acreage by varieties and region 1968-69

Variety	Caspian Coast[1]	Central East[2]	Central West[3]	South[4]	Total
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
Coker 100-Wilt[5]	66.7	18.0	4.7	2.7	92.1
Acala	–	3.3	1.3	--	4.6
Filistani	–	–	–	1.3	1.3
Boomi	–	1.3	.7	--	2.0
Total	66.7	22.6	6.7	4.0	100.0

[1] Includes Gorgān-Gonbad-e Kāvūs and Māzandarān areas.
[2] Includes Khorāsān, Tehran, Isfahan and Kerman areas.
[3] Includes Azerbaijan and Kermanshah areas.
[4] Includes Fārs area.
[5] Includes other strains of Coker.

World War II, this cotton soon became the most important variety used. However, the quality of Cokers has degenerated significantly since its introduction. Mixing has reduced its quality, and gins have not been careful to distribute good seed, leaving no way to replenish supplies with pure seed.

A small quantity of *Filistani* cotton is still produced commercially in Iran. This upland cotton, originally the Weber variety from the United States, was introduced in 1925 in the village of Filistan. Although now badly mixed, the quality of Filistani is relatively good with grades of Middling or better and an average staple length of around 1 inch is not unusual. Filistani production is declining and in recent years accounted for less than 2 percent of the cotton crop.

The only other variety of Upland now produced is *American or Amricaii.* This variety, a highly mixed cotton now produced mainly in the Fars and Meshed regions, was introduced in the mid-1920's. Although the seed came from the USSR, it was believed to be of U.S. origin, and so it was called American. Staple length runs from 3/4" to 7/8", and quality generally is Strict Low Middling or below. Because of the low quality, efforts are being made to discourage its production.

Native *Boomi* cotton averages around 1/2 inch in staple length and micronaire runs 6.0 to 7.0. Almost all Boomi is used by the village handloom industry in areas where it is grown. Some Boomi moves from Isfahan, the main center of production, to the northwestern Province of Azerbaijan for use in coarse cloth and padding in winter clothing.

COTTON AND THE FOURTH DEVELOPMENT PLAN

The Fourth Development Plan for agriculture was drawn up in 1967-68 for the period from 1968-69 to 1973-74. In the Plan, Iranian officials set a goal for cotton production at about a bale per acre. This level is to be accomplished by furnishing technical assistance to farmers and subsidizing fertilizers, insecticides, and interest on loans for producers that participate in the program. In 1970-71, the third year of the Plan, nearly 200,000 acres–about one-fourth of total acreage–were scheduled to be covered by the program and in 1973-74 about 250,000 acres are expected to be covered. The Plan does not press for additional acreage, but with the anticipated increase in yield, production could reach about 900,000 bales. At this level of output, exports are likely to be about 550,000 bales.

In 1969, the Iranian Government through the Iranian Factories Corporation, signed contracts with 11,000 growers, covering about 80,000 acres. The growers agreed to work closely with the Government for assistance on seed distribution, fertilizer, insecticides, technical assistance, and credit facilities and to purchase cotton at an agreed price. This is an attempt to eliminate the middlemen who are situated mostly in the eastern part of the Caspian

Coast. The Government company manages and controls all Government-owned cotton gins located mainly in the Gīlān and Māzandarān areas. The ginning plants supply cotton to the Government-owned textile mills.

The farmers that participate in the Government program are selected on the basis of first come, first serve, walk-in and apply for assistance. The cooperators in the program were eligible for reimbursement of one-third of the cost of fertilizers and a 3 percent interest refund on loans for cotton production.

Ministry of Agriculture inspectors are available in the areas to inspect farms that have applied for assistance. The inspectors check for use of improved seeds, prescribed fertilizer applications, and proper insecticide measures. Producers' eligibility is actually a judgment on the part of the inspector while visiting the farm. No record keeping program has been indicated. Usually, the more progressive producers appear to be benefiting from the program.

In 1969 the Agricultural Bank provided farmers that cooperated under the governmental assistance program with about 45 pounds of improved seed per acre of cotton, about 135 pounds of chemical fertilizer per acre, $3.00 worth of pesticides per acre, and an advance of $6.15 per acre of cultivated cotton for labor and other expenses.

COST OF PRODUCTION

Information on the cost of producing cotton in Iran is based on individual farm records and estimates by ginners and traders. These costs are (1) those incurred if a farm produces about the national average yield per acre for a given year and (2) costs for a farm producing above-average yields. It should be noted that two farms may obtain average yield with varying costs for each farm's input unit as a result of production practices, timing of activities, and technology employed.

Cost of production data are most pertinent for farms in the Caspian Coast Region, where climatic conditions are more conducive to cotton production, and for cotton that would probably be exported rather than the lower quality cotton utilized by the local mills.

Most cotton farming operations are mechanized except for harvesting, which is done entirely by hand. Transportation to the gin may be by bags tied on backs of animals, by animal-drawn carts and wagons, or by large diesel trucks. The small farmer uses pack animals, carts or small trucks while the large producer usually employs larger trucks and tractors.

Costs vary within farming areas from one farm to another and are closely associated with yield differences. Generally, farmers with above-average yields will more than likely have below-average costs of production per acre and a reasonable profit. On the other hand, farmers with low yields could experience losses even during years of higher prices. The customary procedure for marketing cotton at the farm level does not lend itself to providing the average farmer with a large profit. The ginner, acting as the primary source of capital for farming operations, is in a position to influence prices to producers. However, during the 1970-71 crop year farmers received a greater proportion of the price increase than in other recent years. Competition between ginners because of increased ginning capacity primarily in the Caspian Coast Region accounts for some of the price increases. Also, ginners with the greatest quantity of seed cotton command a greater share of the cottonseed oil market.

Subsidies offered under the Fourth Development Plan to farmers who cooperate with the extension service in effect reduce the costs of production and increase profits. Producers that carry out the technical instructions under the Government program can get a refund of 3 percent on loans used for cotton production and one-third of the cost of fertilizer. With the increase in technology and use of pesticides, fertilizers and improved seeds, total cost of production per acre will more than likely increase from year to year. The increase in yield resulting from the use of new methods and technology will, on the average, increase farmers profits to more than offset added costs.

GINNING

All of Iran's cotton is saw-ginned, and most of it with fairly modern U.S. equipment. Most gins have seed cotton dryers and cleaners and lint cleaners. They generally do a good job. The equipment of some of the older gins in the northwest, mostly Russian made and installed around 1936, has become obsolete. Because these gins are not able to properly prepare the lint, official decrees forbid the exportation of their cotton, so it must be sold to domestic textile mills.

Cotton: Cost of production at average and above-average yields in 1967-68 to 1970-71

Item	Unit	Average				Superior			
		1967-68	1968-69	1969-70	1970-71	1967-68	1968-69	1969-70	1970-71
Lint cotton per acre	Pounds	353	372	363	413	714	743	675	725
Price received per pound ..	Cents	29.0	24.0	25.5	28.0	30.0	24.5	26.0	28.5
Income per acre[1]	Dollars	102	89	87	116	214	182	175	207
Adjusted total cost per acre[2]	Dollars	85	84	82	76	121	125	135	132
Adjusted direct cost per acre	Dollars	60	60	62	61	97	100	110	106
Net return per acre over:									
Total cost	Dollars	17	5	5	40	93	57	40	75
Direct cost	Dollars	42	29	25	55	117	82	75	101
Adjusted total cost per pound	Cents	24.1	22.6	22.6	18.4	16.9	16.8	20.0	18.2
Adjusted direct cost per pound	Cents	17.0	16.1	17.1	14.8	13.6	13.5	16.3	14.6

[1] Less value of seed.
[2] Unginned.

Ginning equipment in Iran, by cotton producing areas, 1970-71

Region	Batteries		Stands		Saws					
	Active	Idle	Active	Idle	Active					Idle
					80's	90's	120's	Others	Total	
Idle	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Gorgān-Gonbad-e Kāvūs . .	33	-	138	-	2,000	2,520	9,600	748	14,868	-
Māzandarān	16	1	66	5	3,360	1,440	960	-	5,760	450
Khorāsān	13	2	29	3	-	2,610	-	-	2,610	270
Tehran	11	1	28	2	720	1,800	-	-	2,520	80
Fārs	7	-	19	-	640	540	600	-	1,780	-
Isfahan	2	-	3	-	240	-	-	-	240	-
Kerman	-	1	-	2	-	-	-	-	-	160
Azerbaijan, East	2	1	7	2	-	270	480	-	750	180
West and Central	2	1	3	2	240	-	-	-	240	160
Total	86	7	293	16	7,200	9,180	11,640	748	28,768	1,300

Source: Cotton Organization.

During the 1970-71 season a total of 93 gins were located throughout Iran's cotton producing regions, compared with 119 gins in 1963. Of the 93 gins only 86 were in operation. Many gins with newly installed equipment in the early 1960's were in the Gorgān-Gonbad-e Kāvūs Region. At one time much of the cotton was transported into Tehran from the Caspian for ginning. In 1961, by Government decree, cotton was to be ginned in the area of production. As a result, additional new gins were built in the Gorgān-Gonbad-e Kāvūs area, mostly by exporting firms that had gins in Tehran. Trade sources reported that installation of seven gins and improvements for others were authorized in 1969-70.

Cotton exporters maintain that gin ownership is the only way they can be certain of enough quality cotton for export. More than one-half of the cotton exported is ginned by these exporters. Such ownership has occasioned complaints from the domestic textile industry which alleges that sufficient good quality cotton is not available locally. It appears, however, that local mill buyers are unwilling to pay the same premiums for quality cotton as exporters.

Gins supply most of the credit available to cotton producers. About one-third of the crop is controlled by the Cotton Board, a quasi-governmental organization, through loans to farmers. The rest is controlled by privately owned gins in much the same manner.

Cotton Board credit covers seed and other production costs. When the Board makes a loan, the contract stipulates that a specified quantity of the crop will be sold to one of the 28 Government-owned gins for processing. Where production exceeds the quantity to be sold to the Government gin, the farmer is free to market the excess at a gin of his choice.

Credit extended by privately owned gins may be handled in a number of ways, but generally the cotton crop is security for the loan. Thus, producers are required to sell all their crop to the gin making the loan. Because of the fairly keen competition among gins in the major producing regions, almost all are willing to extend credit. This availability of credit has probably influenced the expanded cotton acreage in northern Iran.

Gin companies also distribute cottonseed. Under this system, there is little difficulty in establishing a new variety quickly, if adequate seed stocks are available and the ginners are willing to cooperate. When Coker 100-Wilt proved to be a good variety, gins were able to achieve rapid gains in its cultivation. Since each gin supplies only one variety of seed to farmers and these farmers normally return their cotton crop to the gin which distributed the seed, there is little mixing of cotton varieties except during the period when a new variety is being introduced. Also, ginning of only one variety makes easier the job of grouping cotton into even-running lots.

Since gins generally purchase seed cotton from producers, it is to their own economic advantage to select and distribute the best seed available. Most gins do distribute the best, but in many cases, even the best available is rather poor quality seed.

Seed imports are not allowed except in small lots for Government research. While this policy tends to preclude the rapid adoption of new varieties, it helps to keep a limited number of adapted cotton varieties in commercial production.

MARKETING

Cotton moves in fairly well-defined marketing channels in Iran. These channels are similar to those prevailing throughout much of the Middle East. Iranian cotton producers generally sell seed cotton to gins; U.S. producers, on the other hand, usually pay for the services of gins and retain ownership of the lint cotton and seed. Iranian gins generally purchase seed cotton from farmers by variety, but are reluctant to pay premiums for quality. In major producing areas, however, increasing competition among the various gin companies assures farmers a reasonable return for their crop.

After cotton is ginned, the Government classifies cotton destined for export into grades 1 through 4, a system of local standardization that was established by the cotton organization in 1955. However, in 1970-71 the Government of Iran, in cooperation with the cotton organization and the Institute of Standardization for Industrial Research, introduced new standards for cotton, comparable to international standards.

Cotton marketed domestically may or may not be graded by the Government. If cotton sold domestically is purchased from a gin engaged in both export and domestic trade, it will probably be classed. Cotton from unlicensed gins, which are not allowed to sell for export, is not classed officially. Also, cotton is sold domestically on a gross weight basis while exports are sold by net weight.

Mill buyers in Iran have shown little interest in purchasing quality cotton. They generally try to buy it as cheaply as possible and under the best credit terms possible. One of the major reasons behind this lack of "quality consciousness" on the part of mill buyers lies in their background. Many were bazaar merchants, inexperienced in cotton purchasing or mill operation at the time they were employed as mill buyers. With this background, they lean heavily on price considerations and less on quality.

Cotton merchants and ginners, too, are prone to be lax in quality control of cotton they sell domestically. Consequently, mill owners are, in many cases, dissatisfied with the quality of cotton received, and find spinning operations difficult. Textile mills complain of fraudulent practices ranging from watered cotton to obviously-planted foreign materials. Official classing probably would help get cotton into even-running lots, but until buyers become quality conscious, Iranian mills will continue to have trouble spinning domestic cotton.

EXPORTS

Cotton exports are among Iran's largest earners of foreign exchange, but exports of petroleum and petroleum products, which account for 85 to 90 percent of the countries annual exports, so overshadow all other products that cotton accounts for only around 5 percent of foreign exchange earnings.

Iranian cotton exports are estimated at a record 475,000 bales in 1970-71, compared with 430,000 bales in 1969-70. Under the Fourth Development Plan, the goal for exports by 1973-74 is set at around 550,000 bales.

Cotton exports have increased steadily since the early 1950's, averaging 125,000 bales annually during the period 1950-54, 187,000 bales during 1955-59, and 385,000 bales during 1965-69. The rapid rise in exports reflects a substantial increase in production with a relatively small increase in domestic consumption.

In the past few years about three-fourths of total exports were destined for Communist countries. generally under bilateral trade agreements. The U.S.S.R. has traditionally been a substantial buyer, and in recent years Hungary, Romania, Poland, and Bulgaria have bought sizable quantities. A 5-year Iranian-Hungarian cotton barter trade agreement provided for exports of approximately 46,000 bales of Iranian cotton to be shipped to Hungary in 1970-71. The agreement also called for cotton exports to Hungary to increase about 10,000 bales each succeeding year of the agreement.

In 1969-70 the United Kingdom, still a significant buyer, purchased over 25,000 bales, compared to 90,000 bales 5 years earlier. France, West Germany, and Italy, until recent years, were among the important markets for Iranian cotton. Japan and Czechoslovakia also normally buy large quantities of cotton from Iran annually.

Iranian cotton entering export markets has gained a fair reputation for quality in recent years. This reputation probably results from improved ginning facilities and improved quality control by exporters, with some of the improvement in quality control influenced by governmental guidance. The Fourth Development Plan provides for improved and additional storage facilities in the higher rainfall areas where facilities are inadequate during peak seasonal movements of cotton. Many exporters own gins and by this means they are better able to acquire even-running lots as well as to offer higher quality cotton for shipment.

Cotton exported to Russia and most of the cotton shipped to Eastern Europe moves through the port of Now Shahr across the Caspian Sea. Another major port that cotton moves through is the Persian Gulf port of Khorramshahr. Although the State Railway connects major producing areas with the two ports, most of the cotton is transported by truck because costs of truck shipments are negotiated while rail-freight rates are fixed by the Government.

The outlook for cotton exports from Iran for the next few years is favorable for continuing the trend of recent years and possibly reaching the goal of 550,000 bales by 1973-74. Production is expected to increase and consumption will more than likely continue to rise, but at a slower rate than production. If, however, the highway projects called for in the Fourth Development Plan extend the highway network significantly to permit easier access to the smaller towns and to expand the current marketing system, domestic demand for textiles could raise mill demand faster and result in less cotton for export. Iran is going through massive political, social, and economic changes, and even small factors in this period could affect cotton's future.

Cotton: Exports from Iran by country of destination, annual 1955-69

Year[1]	Bulgaria	Czecho-slovakia	France	Germany, West	Hungary	Italy	Japan	Poland	Rumania	United Kingdom	USSR	Other	Total
	1,000 bales[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]
1955	0	5	60	22	8	38	9	2	0	26	5	2	177
1956	0	7	72	10	9	15	18	7	0	18	16	8	180
1957	0	11	48	29	11	11	12	2	0	44	21	9	198
1958	0	24	37	11	3	14	16	6	0	46	22	11	190
1959	0	8	(3)	7	8	11	21	23	0	50	41	21	190
1960	0	39	13	23	11	17	10	5	0	83	32	12	245
1961	0	30	16	31	14	17	0	26	0	79	36	17	266
1962	0	12	22	13	23	16	0	25	0	62	41	6	220
1963	0	12	21	9	29	44	16	41	0	97	50	7	326
1964	0	28	17	26	36	9	(4)	43	3	73	53	25	313
1965	2	40	49	45	30	21	21	39	31	90	27	64	459
1966	3	21	16	14	31	7	27	14	37	31	33	38	272
1967	5	35	12	23	22	5	9	34	33	35	55	31	299
1968	34	39	5	2	41	0	13	27	59	16	106	78	420
1969[5] . . .	19	54	7	5	80	1	45	19	27	25	96	39	417

[1] Year beginning August. [2] Bales of 480 pounds net. [3] If any, included in other. [4] Less than 500 bales. [5] August-June.

Source: *Foreign Trade Statistics* (Tehran).

PRICES

Iranian Strict Middling 1-1/16 inch cotton tends to be quite competitive with U.S. cotton early in the harvest season. In fact, beginning in August 1969 and 1970 Iranian cotton prices, c.i.f. Liverpool, were somewhat below U.S. prices, and in January 1971, Iranian prices were above those for comparable U.S. qualities. Iranian traders do not have facilities to hold a large carryover into the next season. If large stocks were accumulated some of the cotton would have to be stored in the open and would more than likely be weather-damaged, especially in the Caspian Coast Region.

Traditionally, cotton from Iran that moves out through the Caspian Sea and Russian ports is destined for Eastern Europe, mostly to fill commitments under barter agreements. It comes primarily out of the Caspian Coast Region with a relatively low transportation cost. All other cotton must be shipped a great distance to the port at Khorramshahr on the Persian Gulf. A key factor in Iran's ability to compete in the world markets despite rather high

Cotton: Comparison of Iranian and U.S. offering prices, c.i.f. Liverpool and Bremen, annual 1964-70, monthly January 1970 through September 1971

Year beginning Jan. 1	Liverpool		Bremen	
	Iran SM 1-1/16"	United States SM 1-1/16"	Iran SM 1-1/16"	United States SM 1-1/16"
	Cents per pound	*Cents per pound*	*Cents per pound*	*Cents per pound*
1964	29.87	29.32	29.64	29.54
1965	28.78	29.25	28.92	29.05
1966	28.28	28.05	27.56	27.93
1967	29.90	30.40	29.48	29.89
1968	32.00	33.07	30.80	32.10
1969	28.52	28.47	28.64	28.47
1970	29.20	29.68	29.12	29.54
1970				
January	28.50	28.75	29.12	29.01
February	28.62	28.81	28.98	28.99
March	28.75	29.00	28.48	29.02
April	28.75	29.31	28.80	29.30
May	28.75	29.40	28.99	29.45
June	28.75	29.45	28.87	29.26
July	28.80	29.70	n.q.	29.30
August	29.25	29.75	28.65	29.38
September	29.25	30.26	28.94	29.79
October	29.54	30.70	29.34	30.11
November	30.31	30.58	29.92	30.25
December	31.17	30.39	30.25	30.60
1971				
January	32.05	30.95	30.71	30.48
February	32.22	31.52	31.00	30.95
March	32.00	32.02	31.21	31.40
April	32.00	32.30	31.60	31.50
May	32.59	33.48	32.90	34.02
June	33.12	33.48	33.70	33.80
July	33.68	34.60	33.74	33.91
August	35.31	35.46	34.39	34.93
September	36.35	35.10	35.57	35.15
October				
November				
December				

N.Q. = Not quoted.

Source: Cotton and General Economic Review, Liverpool, and Bremer Baumwollborse, Bremen.

transportation charges is ownership of the major ginning plants by exporters who thereby control a large proportion of the raw cotton industry, especially in the Caspian Coast Region. Quality characteristics and uniformity of Iranian cotton are widely acceptable in importing countries.

THE TEXTILE INDUSTRY

In recent years the Iranian textile industry consumed nearly 250,000 bales of cotton annually, about one-third of each year's crop. Consumption declined during the first half of the decade then rebounded sharply in the mid-1960's. In 1970-71 it is expected to reach a record of 260,000 bales.

Cotton consumption locally averaged 66,000 bales annually during the early 1950's, then rose to an average of 116,000 bales during the latter half of the decade. In the past 5 years ending in 1970-71, cotton consumption has averaged 236,000 bales annually, increasing at an average rate of about 3 percent a year to a total 260,000 bales in 1970-71. During the decade of the 1950's the textile enterprises reported exceptionally high profits. Government loans were provided to stimulate construction of new plants and modernize existing facilities. Between 1958 and 1961, imports of large quantities of spinning equipment, mainly from Japan and several European countries, were made possible by Government loans and by officially arranged petroleum-textile machinery barter. In 1962, however, imports of spindles, except for replacement of worn out equipment, were banned.

In 1962-63, Iranian cotton consumption started the downtrend that ended 5 years later, about the end of the Third Plan for Economic Development. During these 5 years the goal for cloth production was only slightly above the 1962 level. However, imported synthetic fibers were the principal fibers to benefit from the situation. Imports of manmade fibers rose at the rate of about 15 percent a year during this 5-year period. In recent years, however, imports of manmades have averaged only about 5 percent per year.

Mills prefer to spin rayon instead of cotton, primarily because of the favorable credit terms available. Mill buyers are able to buy rayon on 4 to 6 months interest-free credit, whereas cotton purchases are made in cash. Even cotton purchased under Government low-interest loans is paid for when it is removed from storage. The distribution system for textiles is such that mills must grant 3 to 6 months credit on textile sales. This encourages very selective purchasing of raw materials on the best available credit terms. Also, mill buyers had given little attention to cotton quality in the past, and spinners had considerable trouble when trying to spin the low quality cotton. Rayon, on the other hand, is relatively free from foreign material and staple length is more uniform.

Another important factor in the use of rayon over cotton is the lack of availability to the mills of the better quality cotton. The Government of Iran prohibits exports of low quality cotton and the exporters who control a large proportion of the ginning industry export the better cotton and offer lower qualities to local buyers.

In addition, inexperienced textile workers further compound the difficulties when spinning low quality cotton.

Iran has an archaic system for distributing textiles. The cloth moves through long-established channels in which a few large-scale bazaar merchants dominate the distribution system. Consumers in large cities and towns have a good selection of textiles and their demands are well met. In outlying villages, little has been done to reach prospective consumers, and therefore cloth consumption may not increase significantly from present levels until a better network of roads is developed. In the Fourth Development Plan, the Government has set a goal for improving and extending roads throughout Iran.

The Government of Iran holds the key to the future for cotton consumption in the country. Should officials decide that more cotton textiles are needed, that they can be distributed, and that local production is desirable, added capacity could be quickly installed. Most private mill owners have indicated a willingness to expand their operation. Further, should the Government become alarmed over the rapid rise in use of imported rayon staple fiber, restricting quantities imported or high import duties could effectively reduce the quantity of rayon used. This, in turn, could result in increased cotton consumption.

Textile manufacturing, traditionally a village occupation in Iran, is now the second leading organized manufacturing industry, exceeded only by oil refining.

Mill capacity for textiles, 95 percent of which was cotton spinning in the early 1960's, experienced a period of rapid growth between 1958 and 1963 and seemed to gain at a much slower rate during the next 5 years. The cotton weaving industry in 1960 had less than 10,000 looms in place, but by 1967 about 18,400 looms were ready for operation. The cotton weaving industry alone employed between 55,000 and 60,000 permanent workers in 1967.

Cotton: Supply and demand, in Iran, 1950-70

Season[1]	Beginning stocks	Production	Total supply	Consumption	Destroyed	Exports	Ending stocks	Total district
	1,000 bales[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]	*1,000 bales*[2]
1950	32	129	161	46	-	105	10	161
1951	10	124	134	69	-	35	30	134
1952	30	165	195	68	-	117	10	195
1953	10	240	250	66	-	164	20	250
1954	20	275	295	73	-	204	18	295
1955	18	275	293	82	2	177	32	293
1956	32	285	317	90	-	180	47	317
1957	47	280	327	100	-	198	29	327
1958	29	320	349	115	-	190	44	349
1959	44	373	417	195	-	190	32	417
1960	32	456	488	200	-	245	43	488
1961	43	530	573	250	2	266	55	573
1962	55	425	480	230	-	220	30	480
1963	30	530	560	210	-	326	24	560
1964	24	530	554	210	-	313	31	554
1965	31	645	676	180	2	459	35	676
1966	35	519	554	225	4	272	53	554
1967	53	528	581	230	-	299	52	581
1968	52	690	742	230	5	420	87	742
1969	87	710	797	240	5	430	122	797
1970[3]	122	680	802	260	-	475	67	802

[1] Beginning Aug. 1.
[2] 480 pounds net.
[3] Preliminary.

Source: Official and trade statistics, reports of Agricultural Attachés, and other information.

The rapid expansion in textile mill capacity in the 1950's achieved the official goal of reducing reliance on imported textiles. Textile imports in 1955 were equal to about 119 million yards but by 1962 imports had dropped to around 22 million yards. The Third Plan allowed for imports of 77 million yards. In order to protect domestic production, all imported cloth during the Third Plan was subject to a duty of 5 rials (6.65 U.S. cents in January 1964) per meter, which amounted roughly to 25 percent of the value of domestic cloth.

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